

Sound

An Introduction

Adding life to your layout

Larry's Page

Simple Pendulum

$$\omega = \sqrt{\frac{g}{L}}$$

$$\theta = \theta_{\max} \cos(\omega t - \phi)$$

Traveling Waves

Longitudinal, Transverse

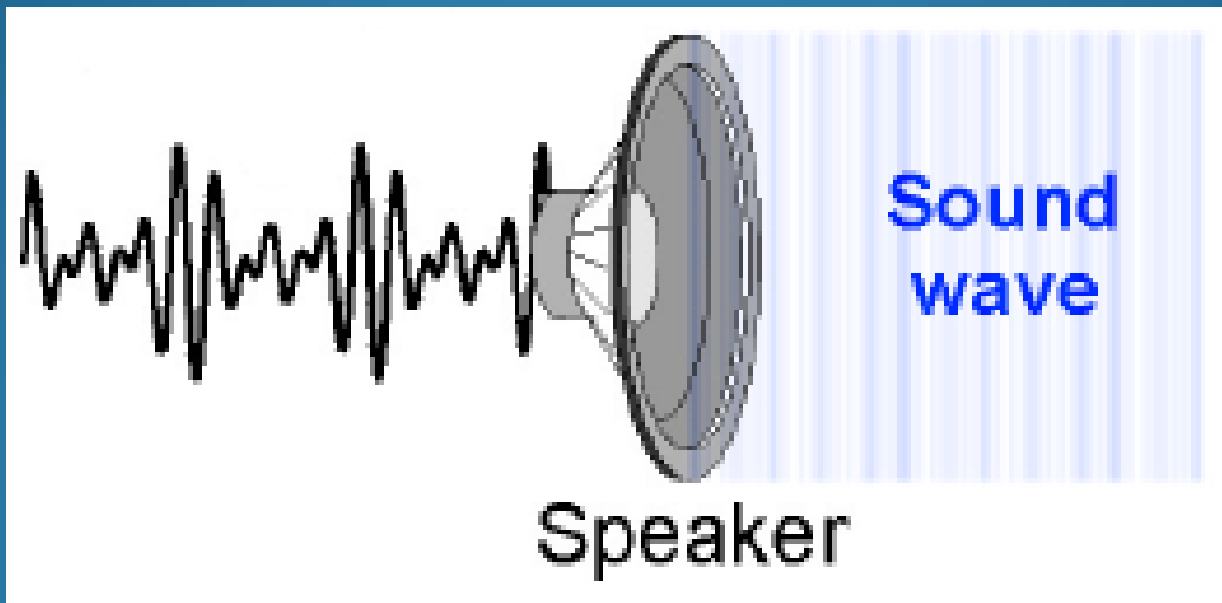
Sinusoidal wave

$$y = A \cos \left[2\pi \left(\frac{x}{\lambda} - ft \right) - \phi \right]$$

Speed, frequency, wavelength

$$v = f\lambda$$

What were looking for:



The simplest way to add sound

Buy a sound card from:

Dallee Electronics

ITTC

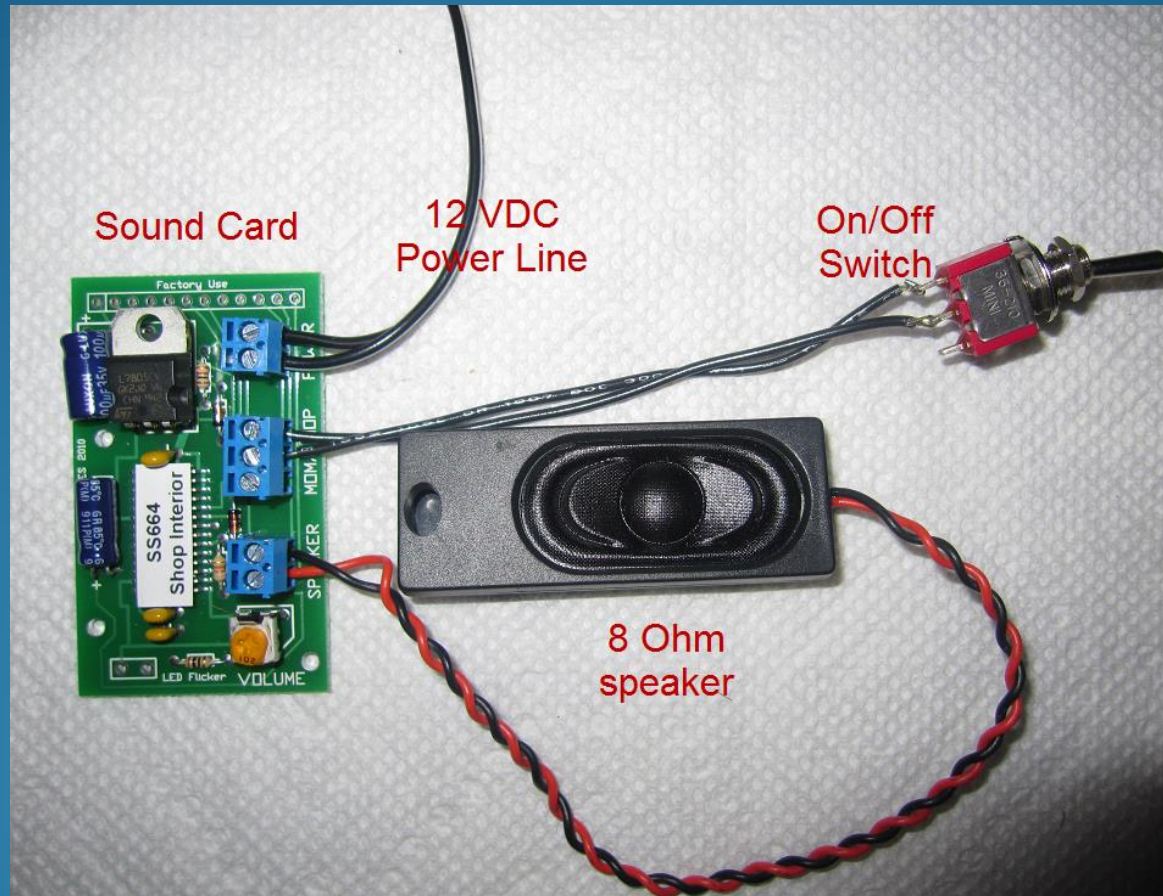
Ram Track

You will also need:

12 VDC power supply

8 Ohm speaker < 4 inches

Typical Sound card setup



If you want more than a
30 second sound byte
then the first step in a
sound project is to find
the sounds you like

I start with:

FantaSonic.com

FantaSonic.com



Welcome to the Model Railroad Magic Website!

Our website is dedicated to the magic of scale sound and sound driven special FX.



Our Products & Services



The Old Free Website

Artwork by Dan Sawatzky

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FantaSonic.com

Scale Magic CD Soundtracks

www.fantasomics.com/store/cd.html

Search

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[\[Scale Magic™ CD Soundtracks\]](#) [\[Scale Magic™ Dream Player\]](#) [\[PRICOM Design products\]](#)
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52 individual R-T-R model railroad scenes... and counting!

Each CD contains over an hour of continuous, hand made 'scale sound scenery', scratch built for a specific scale model railroad scene.

Sounds HUGE no matter how quietly you play it back!
Sounds REAL at any scale volume!
Three dimensional imaging appears real from every angle!

Hearing is believing, click on any scene title below, TURN IT DOWN!, and listen for yourself...

CD's are available in the following scenes:

Rural

- [Way Side Station](#)
- [The Old West](#) (2 CD set!)
- [The Slightly Newer West](#) (2 CD set!)
- [Small Time Mine Operation](#)
- [Farm/Ranch](#)
- [Wild West Saloon](#)
- [Quaint Fishing Harbor](#)
- [Waterfalls & Rivers](#)
- [Streams & Creeks](#)
- [Day & Night](#) (mountain)
- [Day & Night](#) (prairie/desert)
- [Four Corners](#) (dawn/day/dusk/night)
- [Lakes & Ponds](#) (2 CD set!)
- [Swamp/Marsh/Bayou](#)

Urban

- [Big City](#) (turn of the last century)
- [The Big City](#) (roaring 20's & 30's)
- [Big City](#) (Transition Era)
- [Big City](#) (modern, diesel)
- [Big Port Harbor](#) (turn of the last century)
- [Big Port Harbor](#) (WWII, big steam)
- [Big Port Harbor](#) (modern, diesel)
- [International Seaport](#)
- [Roundhouse/Switch Yard](#) (turn of the last century)
- [Roundhouse/Switch Yard](#) (WWII, big steam)
- [Roundhouse/Switch Yard](#) (modern, diesel)

Industry

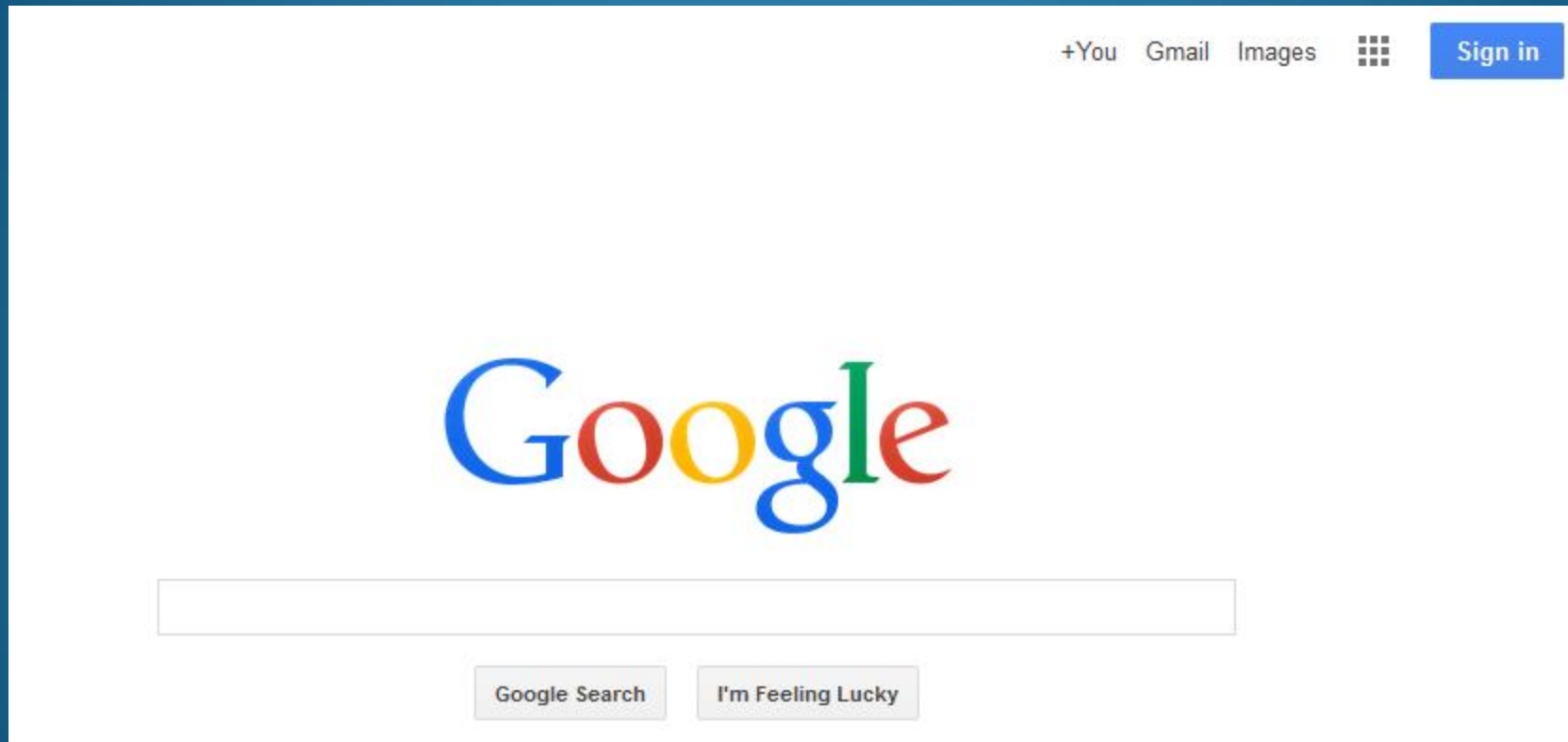
- [Stamp Mills](#), 5, 10 & 20 stamps
- [Saw Mill](#) (pre 1920's, steam powered)
- [Logging Camp](#) (pre 1920's)
- [Logging Operations](#) (pre 1920's)
- [Popp's Paper Products](#) (paper mill)
- [The Big Industry!](#)
- [Two \(or possibly three\) Factories](#)
- ['Steam' Wood Factory](#)
- ['Electric' Wood Factory](#)
- [Big Time Mine](#)
- [The Roundhouse Series](#) (2 CD set!)
- [The Waterfront Series](#) (2 CD set!)
- [Old Time Mining Ops](#) (steam)
- [Old Time Mining Ops](#) (electric)
- [Riley's feed & Grain](#) (rural elevators)
- [The Big Elevators](#)
- [Railside Stockyards](#) (2 CD set)
- [The Warehouse District](#) New!
- [The Refinery](#) New!

Small Town Station

- [Big City Station](#) (turn-of-the-century) New!
- [Big City Station](#) (transition era) New!
- [Big City Station](#) (modern) New!
- [Small Town Station](#) (turn of the last century) New!
- [Small Town Station](#) (early 1900's) New!
- [Small Town Station](#) (late 1900's) New!



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Blacksmith Sounds
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Shopping list of sounds

- 1) Forge – steam era – bellows
- 2) Hammering metal - anvil
- 3) Hissing of hot metal in water
- 4) Maybe the sound of shoeing a horse
- 5) Maybe people and animal sounds

How to trap and record

I use my computer

New terms: **Line level** is the specified strength of an audio signal used to transmit analog sound between audio components such as CD and DVD players, television sets, audio amplifiers, and mixing consoles. This is an industry standard. See also:

Line-in

Line-out



How to trap and record

I use my computer

A jumper set of stereo 3.5mm jacks will allow you to route the output sound (Line-out) back into your computer (Line-in) for capture and processing.



How to trap and record

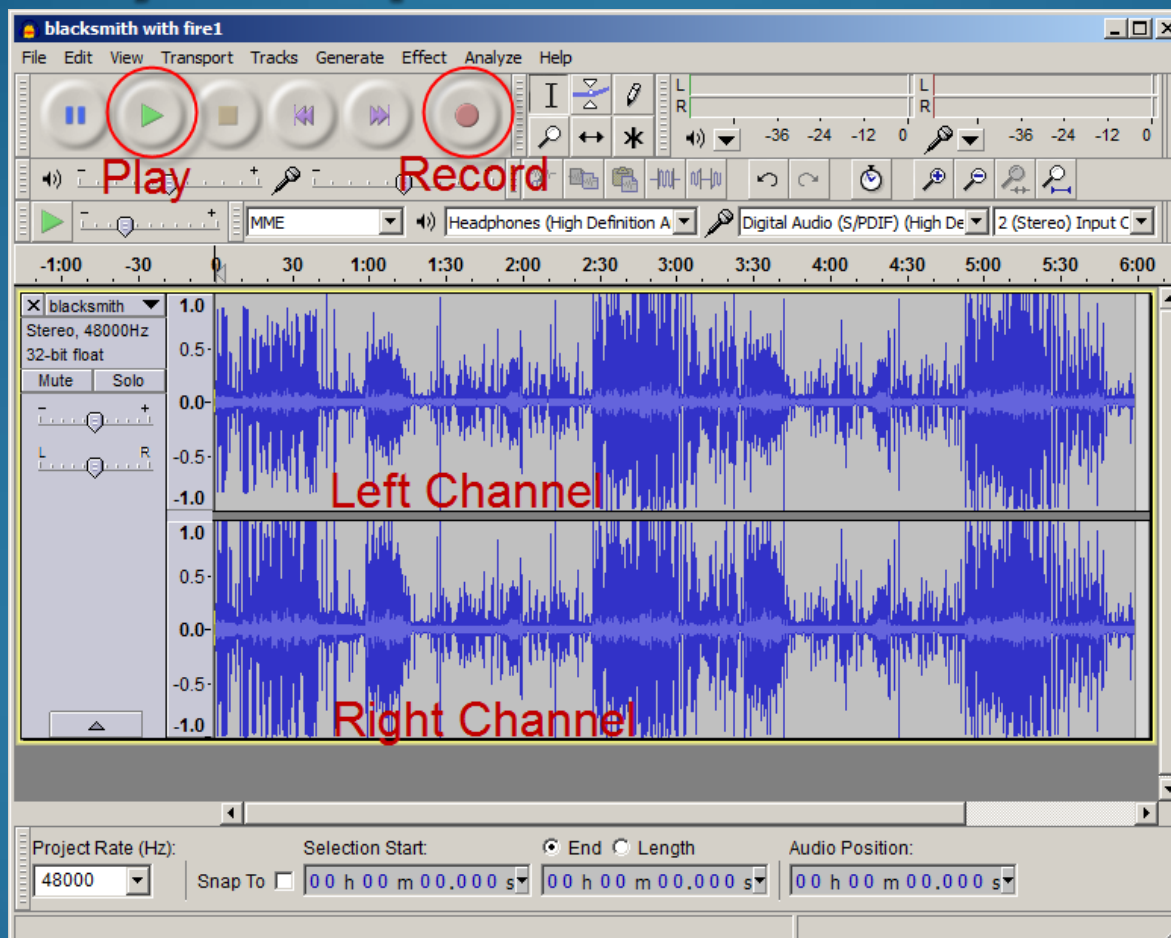
I use my computer

You need some software to capture the sound files. I use [Audacity](#). It's free, and it has a lot of mixing capabilities.



How to trap and record

I use my computer

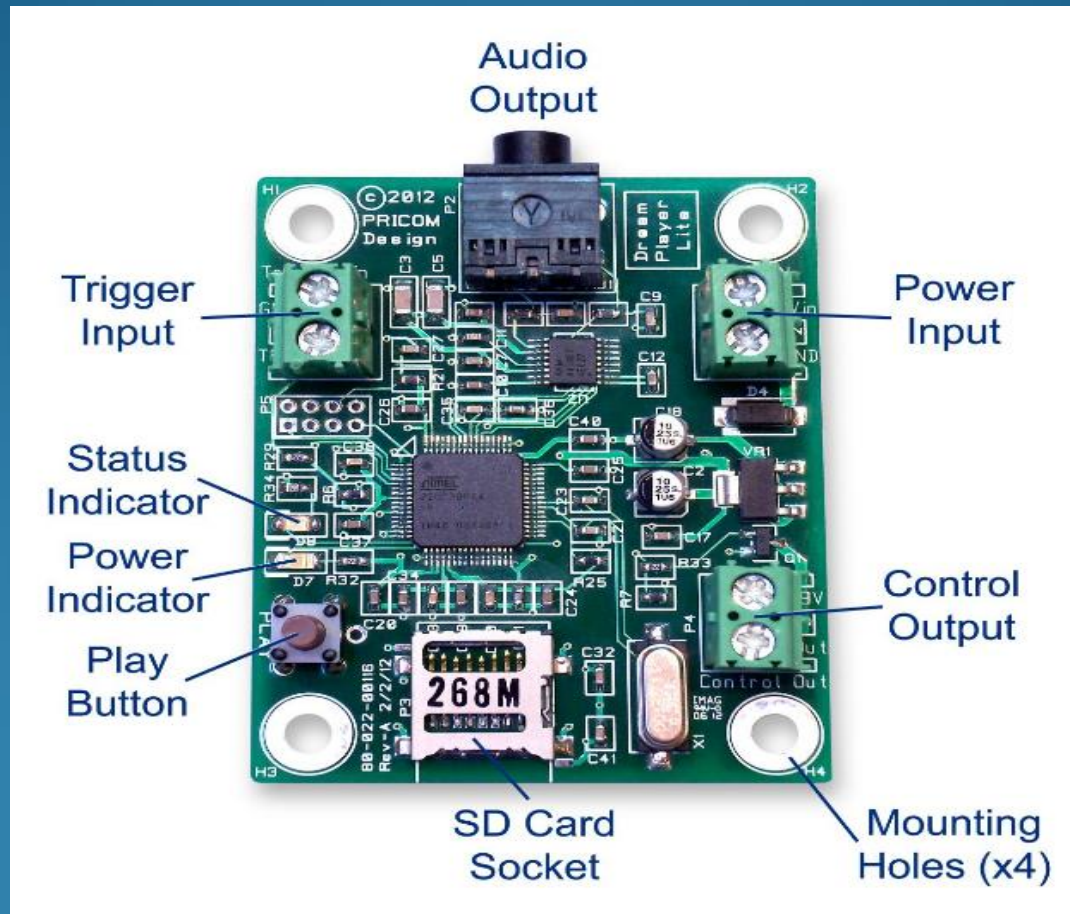


Replaying your recording

If you look closely at the ROM provided by ITTC, Dallee... you can't alter the recording on the sound card. There is one company, Pricom, that allows you to record your sound on micro SD cards and play them



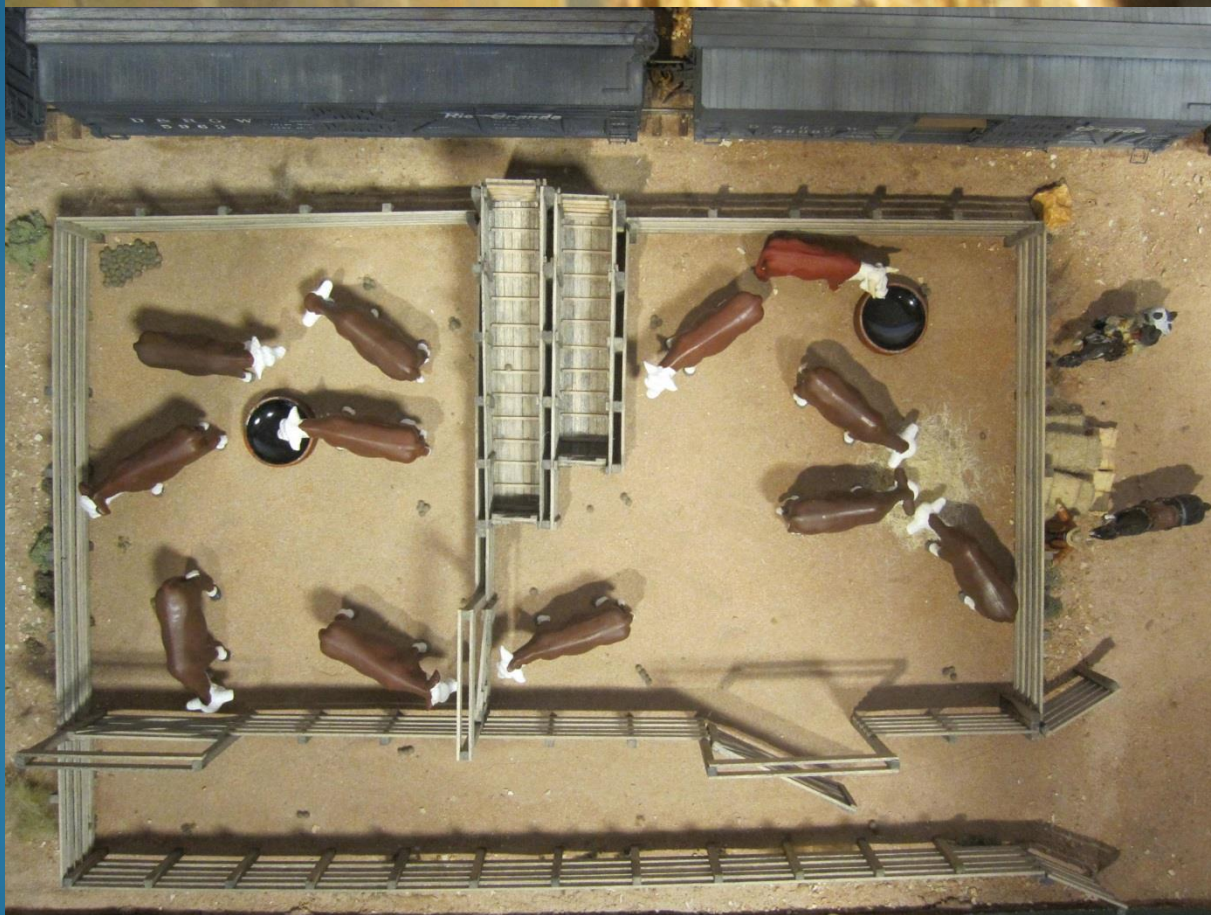
Replaying your recording



Pricom Dream Player LITE

Add sounds to these scenes

Railside Stockyard



Add sounds to these scenes

Engine house



Add sounds to these scenes

Blacksmith shop





Questions?

Possible Future Topics

How to download, install, setup, and/or use Audacity

How to capture audio from a record, tape, or other audio device

Planning your sound scene

Mixing and recording sounds using Audacity

Thank you!

If there are areas where you would like more information or another clinic, let Marc LaChey, Jerry Hoverson, or Larry Swigert know.

Jeff Palmer